Fig. 1

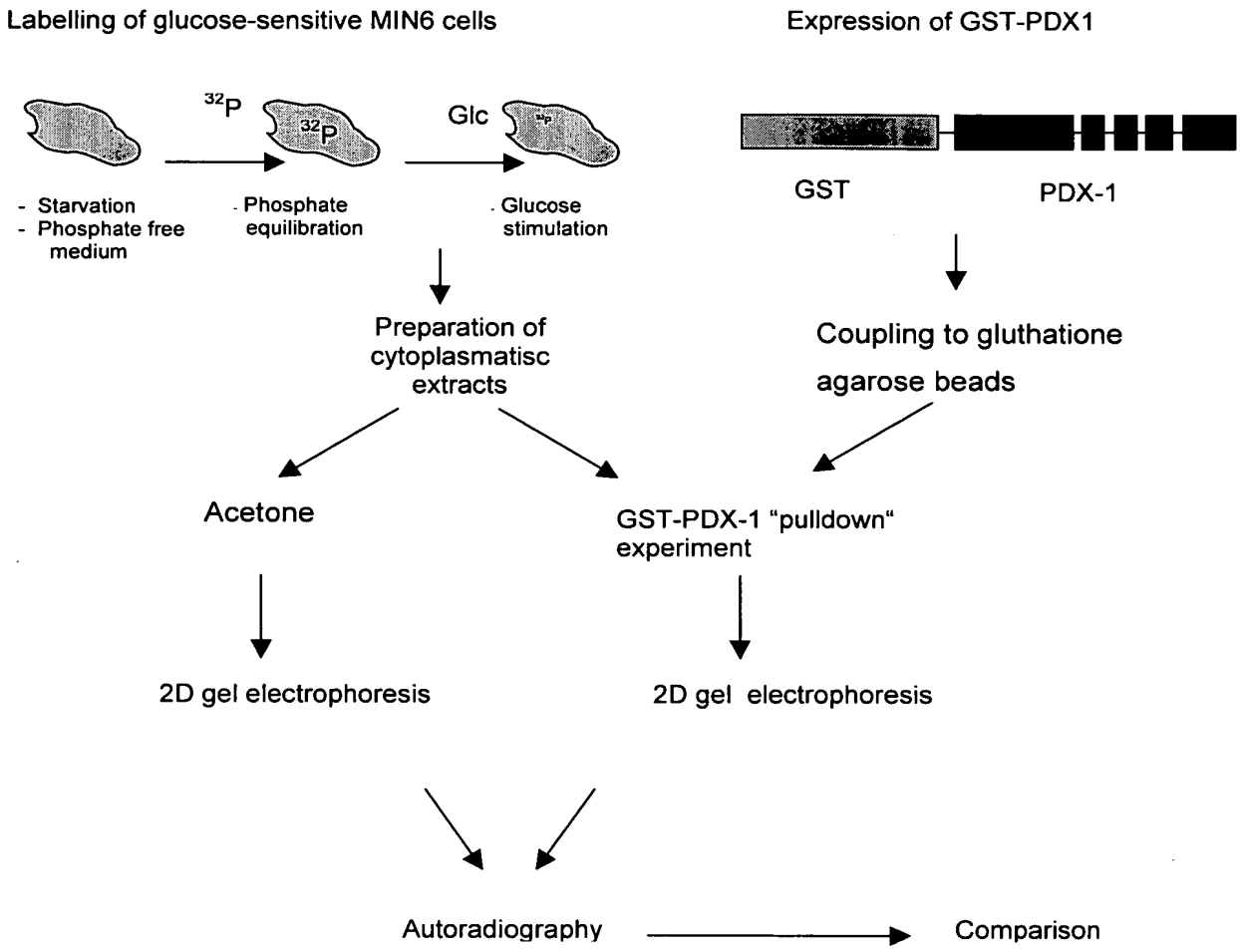
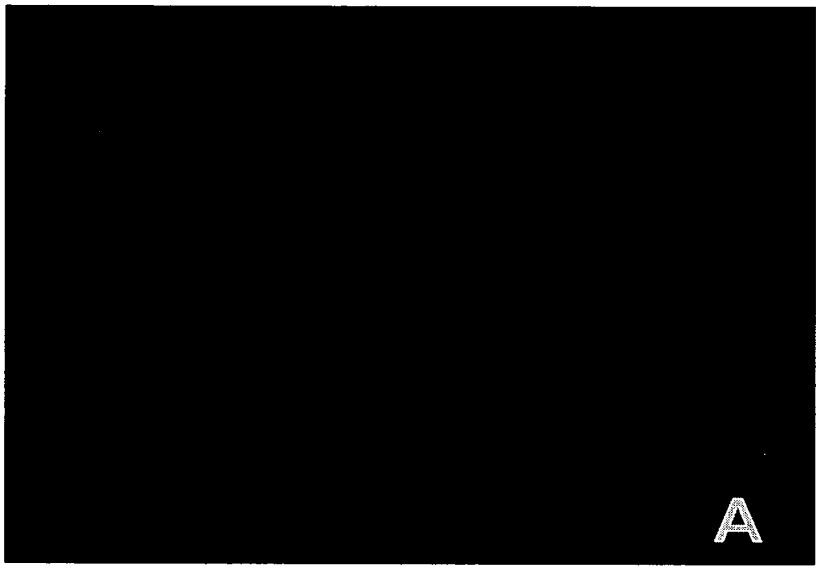


Fig. 2



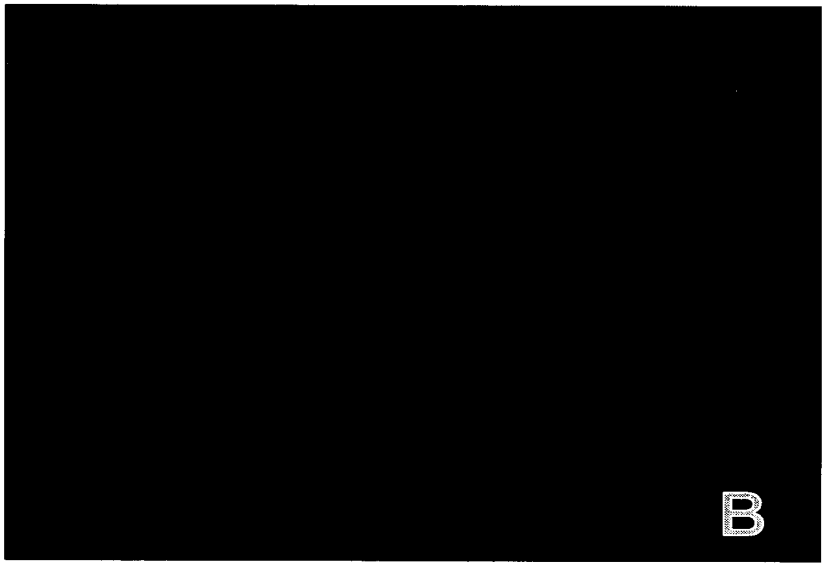


Fig. 3

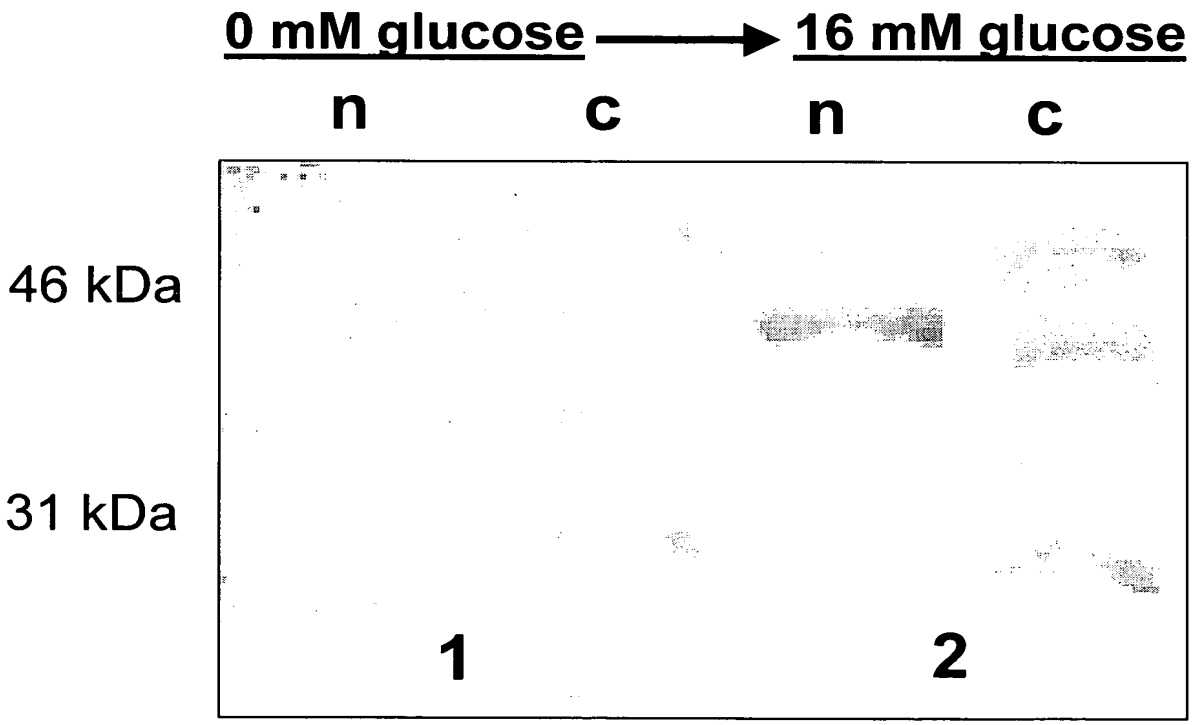


Fig. 4

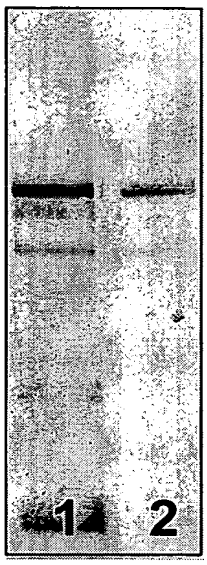


Fig. 5

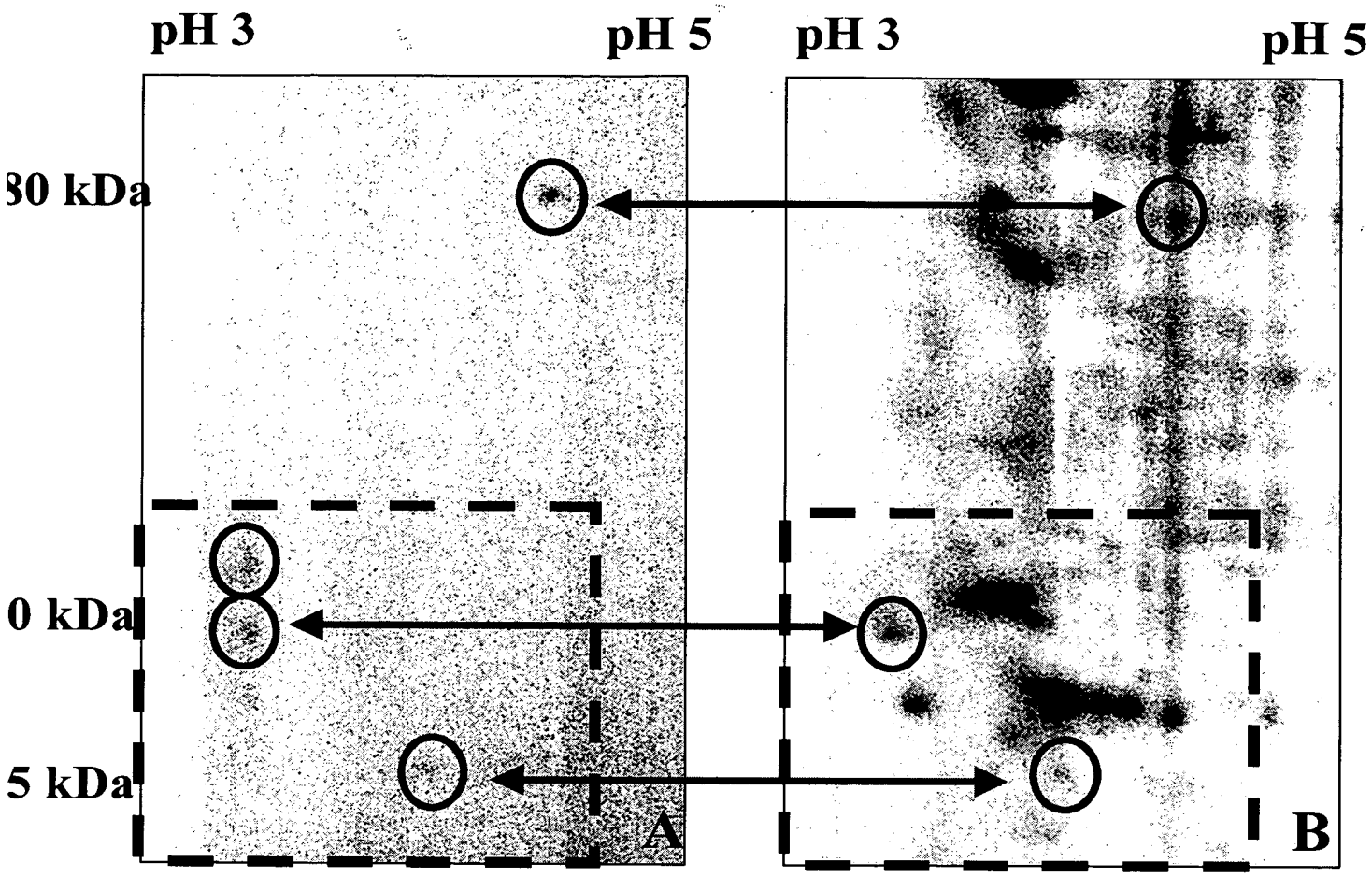


Fig. 6

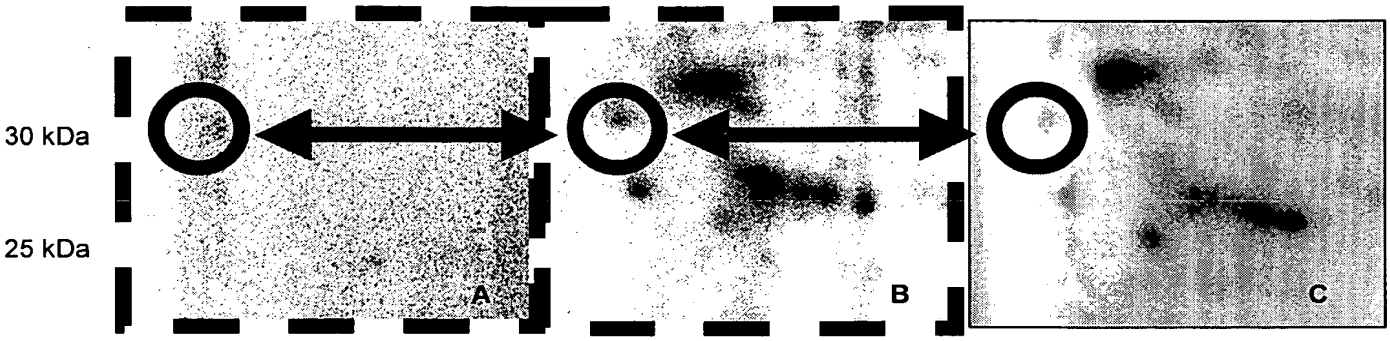


Figure 7

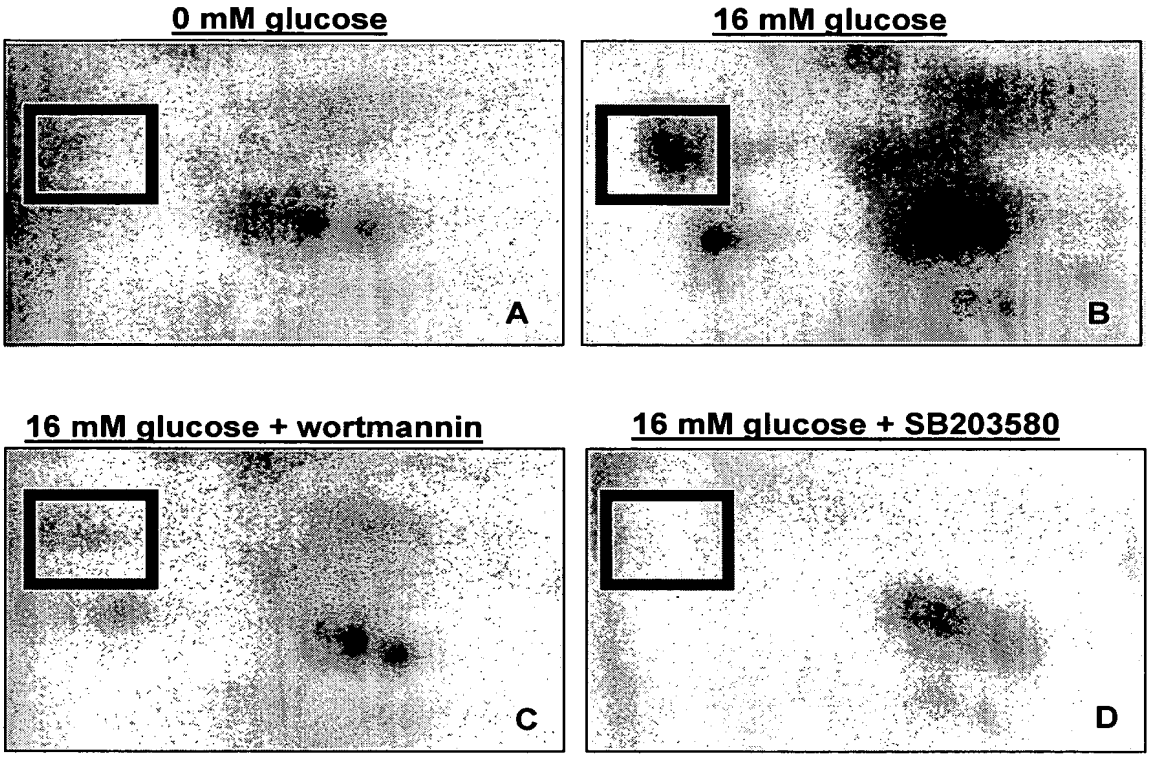
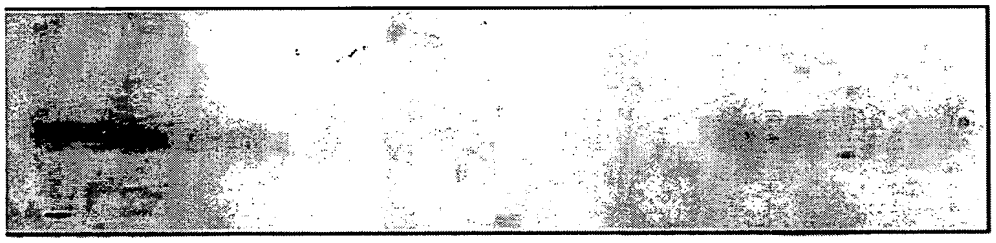

0 mM glucose
16 mM glucose
A
B
16 mM glucose + wortmannin
16 mM glucose + SB203580
C
D

Figure 8

Rank	MOWSE Score	#(%) Mass match	MW (protein) MW (Da)/pI	Name of protein
1	615	7/30 (23%)	29174.1/4.63	(BC001440) tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon polypeptide (14-3-3 epsilon)

A



B

Figure 9:

MNGEEQYYAATQLYKDPCAFQRGPAPEFSASPPACLYMGRQPPP
PPPHPFPGALGALEQGSPPDISPYEVPPLADDPAVAHLHHHLPAQLALPHPPAGPFPE
GAEPGVLEEPNRVQLPFPWMKSTKAHAWKGQWAGGAYAAEPEENKRTRTAYTRAQLLE
LEKEFLFNKYISRPRRVELAVMLNLTERHIKIWFQNRRMKWKKEEDKKRGGGTAVGGG
GVAEPEQDCAVTSGEELLALPPPPPPGGAVPPAAPVAAREGRLPPGLSASPQPSSVAP
RRPQEPR

PDX-1 amino acid sequence;

283 amino acids

Figure 10:

```
    atgaac ggcgaggagc agtactacgc ggccacgcag ctttacaagg
acccatgcgc gttccagcga ggcccggcgc cggagttcag cgccagcccc cctgcgtgcc
tgtacatggg ccgccagccc ccgccgccgc cgccgcaccc gttccctggc gccctgggcg
cgctggagca gggcagcccc ccggacatct ccccgtacga ggtgcccccc ctcgccgacg
accccgcggt ggcgcacctt caccaccacc tcccggctca gctcgcgctc ccccacccgc
ccgccgggcc cttcccggag ggagccgagc cgggcgtcct ggaggagccc aaccgcgtcc
agctgccttt cccatggatg aagtctacca aagctcacgc gtggaaaggc cagtgggcag
gcggcgccta cgctgcggag ccggaggaga acaagcggac gcgcacggcc tacacgcgcg
cacagctgct agagctggag aaggagttcc tattcaacaa gtacatctca cggccgcgcc
gggtggagct ggctgtcatg ttgaacttga ccgagagaca catcaagatc tggttccaaa
accgccgcat gaagtggaaa aaggaggagg acaagaagcg cggcggcggg acagctgtcg
ggggtggcgg ggtcgcggag cctgagcagg actgcgccgt gacctccggc gaggagcttc
tggcgctgcc gccgccgccg ccccccggag gtgctgtgcc gcccgctgcc cccgttgccg
cccgagaggg ccgcctgccg cctggcctta gcgcgtcgcc acagccctcc agcgtcgcgc
ctcggcggcc gcaggaacca cgatga
```

nucleotide sequence encoding PDX-1;
852 nucleotides; nucleotides 850-852: stop codon

Figure 11:

MDDREDLVYQAKLAEQAERYDEMVESMKKVAGMDVELTVEERNL
LSVAYKNVIGARRASWRIISSIEQKEENKGGEDKLKMIREYRQMVETELKLICCDILD
VLDKHLIPAANTGESKVFYYKMKGDYHRYLAEFATGNDRKEAAENSLVAYKAASDIAM
TELPPTHPIRLGLALNFSVFYYEILNSPDRACRLAKAAFDDAIAELDTLSEESYKDST
LIMQLLRDNLTLWTSDMQGDGEEQNKEALQDVEDENQ

Amino acid sequence of 14-3-3 epsilon;
255 amino acids

Figure 12:

atggatgatc gagaggatct ggtgtaccag gcgaagctgg ccgagcaggc tgagcgatac
gacgaaatgg tggagtcaat gaagaaagta gcagggatgg atgtggagct gacagttgaa
gaaagaaacc tcctatctgt tgcatataag aatgtgattg gagctagaag agcctcctgg
agaataatca gcagcattga acagaaagaa gaaaacaagg gaggagaaga caagctaaaa
atgattcggg aatatcggca aatggttgag actgagctaa agttaatctg ttgtgacatt
ctggatgtac tggacaaaca cctcattcca gcagctaaca ctggcgagtc caaggttttc
tattataaaa tgaaagggga ctaccacagg tatctggcag aatttgccac aggaaacgac
aggaaggagg ctgcggagaa cagcctagtg gcttataaag ctgctagtga tattgcaatg
acagaacttc caccaacgca tcctattcgc ttaggtcttg ctctcaattt ttccgtattc
tactacgaaa ttcttaattc ccctgaccgt gcctgcaggt tggcaaaagc agcttttgat
gatgcaattg cagaactgga tacgctgagt gaagaaagct ataaggactc tacacttatc
atgcagttgt tacgtgataa tctgacacta tggacttcag acatgcaggg tgacggtgaa
gagcagaata aagaagcgct gcaggacgtg gaagacgaaa atcagtga

nucleotide sequence encoding 14-3-3 epsilon;
768 nucleotides; nucleotides 766-768: stop codon

Figure 13:

a)

MPGPAAGSRARVYAEVNSLRSREYWDYEAHVPSWGNQDDYQLVR
KLGRGKYSEVFEAINITNNERVVVKILKPVKKKKIKREVKILENLRGGTNIIKLIDTV
KDPVSKTPALVFEYINNTDFKQLYQILTDFDIRFYMYELLKALDYCHSKGIMHRDVKP
HNVMIDHQQKKLRLIDWGLAEFYHPAQEYNVRVASRYFKGPELLVDYQMYDYSLDMWS
LGCMLASMIFRREPFFHGQDNYDQLVRIAKVLGTEELYGYLKKYHIDLDPHFNDILGQ
HSRKRWENFIHSENRHLVSPEALDLLDKLLRYDHQQRLTAKEAMEHPYFYPVVKEQSQ
PCADNAVLSSGLTAAR

Amino acid sequence of CK II alpha' subunit;

350 amino acids

b)

MSGPVPSRARVYTDVNTHRPREYWDYESHVVEWGNQDDYQLVRK
LGRGKYSEVFEAINITNNEKVVVKILKPVKKKKIKREIKILENLRGGPNIITLADIVK
DPVSRTPALVFEHVNNTDFKQLYQTLTDYDIRFYMYEILKALDYCHSMGIMHRDVKPH
NVMIDHEHRKLRLIDWGLAEFYHPGQEYNVRVASRYFKGPELLVDYQMYDYSLDMWSL
GCMLASMIFRKEPFFHGHDNYDQLVRIAKVLGTEDLYDYIDKYNIELDPRFNDILGRH
SRKRWERFVHSENQHLVSPEALDFLDKLLRYDHQSRLTAREAMEHPYFYTVVKDQARM
GSSSMPGGSTPVSSANMMSGISSVPTPSPLGPLAGSPVIAAANPLGMPVPAAAGAQQ

Amino acid sequence of CK II alpha subunit;

391 amino acids

c)

MSSSEEVSWISWFCGLRGNEFFCEVDEDYIQDKFNLTGLNEQVP
HYRQALDMILDLEPDEELEDNPNQSDLIEQAAEMLYGLIHARYILTNRGIAQMLEKYQ
QGDFGYCPRVYCENQPMLPIGLSDIPGEAMVKLYCPKCMDVYTPKSSRHHHTDGAYFG
TGFPHMLFMVHPEYRPKRPANQFVPRLYGFKIHPMAYQLQLQAASNFKSPVKTIR

Amino acid sequence of CK II beta subunit;

215 amino acids

Figure 14:

a)

```
                                                    atgcccg gcccggccgc
gggcagcagg gcccgggtct acgccgaggt gaacagtctg aggagccgcg agtactggga
ctacgaggct cacgtcccga gctggggtaa tcaagatgat taccaactgg ttcgaaaact
tggtcgggga aaatatagtg aagtatttga ggccattaat atcaccaaca atgagagagt
ggttgtaaaa atcctgaagc cagtgaagaa aaagaagata aaacgagagg ttaagattct
ggagaacctt cgtggtggaa caaatatcat taagctgatt gacactgtaa aggaccccgt
gtcaaagaca ccagctttgg tatttgaata tatcaataat acagatttta agcaactcta
ccagatcctg acagactttg atatccggtt ttatatgtat gaactactta aagctctgga
ttactgccac agcaagggaa tcatgcacag ggatgtgaaa cctcacaatg tcatgataga
tcaccaacag aaaaagctgc gactgataga ttggggtctg gcagaattct atcatcctgc
tcaggagtac aatgttcgtg tagcctcaag gtacttcaag ggaccagagc tcctcgtgga
ctatcagatg tatgattata gcttggacat gtggagtttg ggctgtatgt tagcaagcat
gatctttcga agggaaccat tcttccatgg acaggacaac tatgaccagc ttgttcgcat
tgccaaggtt ctgggtacag aagaactgta tgggtatctg aagaagtatc acatagacct
agatccacac ttcaacgata tcctgggaca acattcacgg aaacgctggg aaaactttat
ccatagtgag aacagacacc ttgtcagccc tgaggcccta gatcttctgg acaaacttct
gcgatacgac catcaacaga gactgactgc caaagaggcc atggagcacc catacttcta
ccctgtggtg aaggagcagt cccagccttg tgcagacaat gctgtgcttt ccagtggtct
cacggcagca cgatga

nucleotide sequence encoding CK II alpha';
1053 nucleotides; nucleotides 1051-1053: stopcodon
```

b)

```
                                  at gtcgggaccc gtgccaagca gggccagagt
ttacacagat gttaatacac acagacctcg agaatactgg gattacgagt cacatgtggt
ggaatgggga aatcaagatg actaccagct ggttcgaaaa ttaggccgag gtaaatacag
tgaagtattt gaagccatca acatcacaaa taatgaaaaa gttgttgtta aaattctcaa
gccagtaaaa aagaagaaaa ttaagcgtga aataaagatt ttggagaatt tgagaggagg
tcccaacatc atcacactgg cagacattgt aaaagaccct gtgtcacgaa cccccgcctt
ggtttttgaa cacgtaaaca acacagactt caagcaattg taccagacgt taacagacta
tgatattcga ttttacatgt atgagattct gaaggccctg gattattgtc acagcatggg
aattatgcac agagatgtca agccccataa tgtcatgatt gatcatgagc acagaaagct
acgactaata gactggggtt tggctgagtt ttatcatcct ggccaagaat ataatgtccg
agttgcttcc cgatacttca aaggtcctga gctacttgta gactatcaga tgtacgatta
tagtttggat atgtggagtt tgggttgtat gctggcaagt atgatctttc ggaaggagcc
atttttccat ggacatgaca attatgatca gttggtgagg atagccaagg ttctggggac
agaagattta tatgactata ttgacaaata caacattgaa ttagatccac gtttcaatga
tatcttgggc agacactctc gaaagcgatg ggaacgcttt gtccacagtg aaaatcagca
ccttgtcagc cctgaggcct tggatttcct ggacaaactg ctgcgatatg accaccagtc
acggcttact gcaagagagg caatggagca cccctatttc tacactgttg tgaaggacca
ggctcgaatg ggttcatcta gcatgccagg gggcagtacg cccgtcagca gcgccaatat
gatgtcaggg atttcttcag tgccaacccc ttcacccctt ggacctctgg caggctcacc
agtgattgct gctgccaacc cccttgggat gcctgttcca gctgccgctg gcgctcagca
gtaacggccc

nucleotide sequence encoding CK II alpha;
1182 nucleotides; nucleotides 1180-1182: stop codon
```

c)

atgagca gctcagagga ggtgtcctgg atttcctggt tctgtgggct
ccgtggcaat gaattcttct gtgaagtgga tgaagactac atccaggaca aatttaatct
tactggactc aatgagcagg tccctcacta tcgacaagct ctagacatga tcttggacct
ggagcctgat gaagaactgg aagacaaccc caaccagagt gacctgattg agcaggcagc
cgagatgctt tatggattga tccacgcccg ctacatcctt accaaccgtg gcatcgccca
gatgttggaa aagtaccagc aaggagactt tggttactgt cctcgtgtgt actgtgagaa
ccagccaatg cttcccattg gcctttcaga catcccaggt gaagccatgg tgaagctcta
ctgccccaag tgcatggatg tgtacacacc caagtcatca agacaccatc acacggatgg
cgcctacttc ggcactggtt tccctcacat gctcttcatg gtgcatcccg agtaccggcc
caagagacct gccaaccagt ttgtgcccag gctctacggt ttcaagatcc atccgatggc
ctaccagctg cagctccaag ccgccagcaa cttcaagagc ccagtcaaga cgattcgctg
a

nucleotide sequence encoding CK II beta;
648 nucleotides; nucleotides 646-648: stop codon

Figure 15:

MPAAKKQKLSSDENSNPELSGDENDDAVSIESGTNTERPDTPTN
TPNAPGRKSWGKGKWKSKKCKYSFKCVNSLKEDHNQPLFGVQFNWHSKEGDPLVFATV
GSNRVTLYECHSQGEIRLLQSYVDADADENFYTCAWTYDSNTSHPLLAVAGSRGIIRI
INPITMQCIKHYVGHGNAINELKFHPRDPNLLLSVSKDHALRLWNIQTDTLVAIFGGV
EGHRDEVLSADYDLLGEKIMSCGMDHSLKLWRINSKRMMNAIKESYDYNPNKTNRPFI
SQKIHFPDFSTRDIHRNYVDCVRWLGDLILSKSCENAIVCWKPGKMEDDIDKIKPSES
NVTILGRFDYSQCDIWYMRFSMDFWQKMLALGNQVGKLYVWDLEVEDPHKAKCTTLTH
HKCGAAIRQTSFSRDSSILIAVCDDASIWRWDRLR

Amino acid sequence of the short EED isoform;

427 amino acids

Figure 16:

atgcct gcggccaaga agcagaagct
gagcagtgac gagaacagca atccagaact ctctggagac gagaatgatg acgctgtcag
tatagaaagt ggtacaaaca ctgaacgccc tgatacacct acaaacacgc caaatgcacc
tggaaggaaa agttggggaa agggaaaatg gaagtcaaag aaatgcaaat attctttcaa
atgtgtaaat agtctcaagg aagatcataa ccaaccattg tttggagttc agtttaactg
gcacagtaaa gaaggagatc cattagtgtt tgcaactgta ggaagcaaca gagttacctt
gtatgaatgt cattcacaag gagaaatccg gttgttgcaa tcttacgtgg atgctgatgc
tgatgaaaac ttttacactt gtgcatggac ctatgatagc aatacgagcc atcctctgct
ggctgtagct ggatctagag gcataattag gataataaat cctataacaa tgcagtgtat
aaagcactat gttggccatg gaaatgctat caatgagctg aaattccatc caagagatcc
aaatcttctc ctgtcagtaa gtaaagatca tgctttacga ttatggaata tccagacgga
cactctggtg gcaatatttg gaggcgtaga agggcacaga gatgaagttc taagtgctga
ttatgatctt ttgggtgaaa aaataatgtc ctgtggtatg gatcattctc ttaaactttg
gaggatcaat tcaaagagaa tgatgaatgc aattaaggaa tcttatgatt ataatccaaa
taaaactaac aggccattta tttctcagaa aatccatttt cctgattttt ctaccagaga
catacatagg aattatgttg attgtgtgcg atggttaggc gatttgatac tttctaagtc
ttgtgaaaat gccattgtgt gctggaaacc tggcaagatg gaagatgata tagataaaat
taaacccagt gaatctaatg tgactattct tgggcgattt gattacagcc agtgtgacat
ttggtacatg aggttttcta tggatttctg gcaaaagatg cttgcattgg gcaatcaagt
tggcaaactt tatgtttggg atttagaagt agaagatcct cataaagcca aatgtacaac
actgactcat cataaatgtg gtgctgctat tcgacaaacc agttttagca gggatagcag
cattcttata gctgtttgtg atgatgccag tatttggcgc tgggatcgac ttcgataa

nucleotide sequence encoding the short EED isoform;
1284 nucleotides; nucleotides 1282-1284: stop codon